

What is claimed is:

1. A system to capture one or more images of a semiconductor chamber,
comprising:

a radiation source to generate radiation to illuminate the chamber; and

- 5 a camera coupled to the process chamber and adapted to receive the
radiation reflected from the chamber.

2. The system of claim 1, wherein the radiation source comprises one or more
lamps.

- 10 3. The system of claim 1, further comprising a processor coupled to the camera.

4. The system of claim 3, further comprising a data storage device coupled to the
processor and the camera to store images from the camera.

- 15 5. The system of claim 3, further comprising a network adapter card coupled to the
processor.

- 20 6. The system of claim 5, wherein the network adapter card is coupled to a wide area
network.

7. The system of claim 5, wherein the network adapter card is coupled to the
Internet.

8. The system of claim 7, further comprising a server coupled to the Internet and adapted to receive data from the camera.

5 9. The system of claim 1, wherein the server stores multimedia data from the camera and sends the multimedia data to a remote viewer on demand.

10. The system of claim 1, wherein the camera captures a still image or a video.

10 11. The system of claim 9, wherein the still image or video is captured based on one or more trigger conditions.

12. The system of claim 1, further comprising a process sensor coupled to the processor to capture process data in addition to camera data.

15

13. The system of claim 1, further comprising a motor coupled to the camera to pan the camera.

14. The system of claim 1, further comprising a view port coupled to the chamber.

20

15. The system of claim 14, further comprising a light pipe coupling the camera to the view port.

16. The system of claim 1, further comprising a light pipe projecting from the outside of the process chamber to the inside of the chamber, the light pipe allowing the camera to capture the radiation illuminating the inside of the chamber.
- 5 17. The system of claim 1, wherein the camera captures radiation illuminating outside the chamber.
18. The system of claim 1, wherein the radiation source is ambient radiation.
- 10 19. The system of claim 1, wherein the radiation source is an infrared light source coupled to the chamber.
20. The system of claim 1, wherein the radiation source is a visible light source coupled to the chamber.
- 15 21. The system of claim 1, further comprising an imaging processor coupled to the camera to detect one or more predefined criteria.
22. The system of claim 21, wherein the imaging processor determines the position of one or more components in the chamber.
- 20 23. The system of claim 22, wherein the components include a wafer, a robot arm, a wafer cassette, a wafer support, or a chuck.

24. An apparatus to capture one or more images of a semiconductor processing system with one or more transfer chambers and one or more process chambers, the apparatus comprising:

- 5 a radiation source to generate radiation to illuminate the semiconductor processing system; and
- a camera coupled to the semiconductor processing system and adapted to receive the radiation reflected from the semiconductor processing system.

- 10 25. A system to capture one or more images of a chamber, comprising:
 - a radiation source to generate radiation to illuminate the chamber; and
 - a camera coupled to the process chamber and adapted to receive the radiation reflected from the chamber;
 - a processor coupled to the camera;
 - 15 a data storage device coupled to the processor and the camera to store images from the camera;
 - a network adapter card coupled to the processor and the Internet;
 - a server coupled to the Internet and adapted to receive and store data from the camera, the server sending the multimedia data to a remote viewer on the
 - 20 Internet.

26. A method for viewing semiconductor processing operation, comprising:

- illuminating a chamber with radiation; and

capturing one or more views of the chamber using a camera.

27. The method of claim 26, further comprising analyzing the views to locate the position of one or more components in the chamber.

5

28. The method of claim 27, wherein the components include a wafer, a robot arm, a wafer cassette, a wafer support, or a chuck.

29. The method of claim 26, further comprising storing the views on a remote server.

10

30. The method of claim 29, further comprising streaming the views from the remote server to one or more remote viewers.

31. The method of claim 26, wherein the views are captured based on the occurrence of one or more predetermined criteria.

15

32. The method of claim 31, wherein the criteria include a component movement, a component failure, an out-of-range condition, or predefined time interval.

20 33. A method for remote viewing semiconductor processing operation, comprising:

illuminating a chamber with radiation;

capturing one or more views of the chamber using a camera;

storing the views on a remote server; and

streaming the views from the remote server to one or more remote viewers, wherein the views are captured based on the occurrence of one or more predetermined criteria.